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June 25, 2009

**SWOMS Evaluation Report
MT Theo T
At Anchor off Melaka Outer Roads, Malaysia
June 16 & 17, 2009**

The undersigned boarded the Theo T at about 1230 on June 16, 2009 to carry out an evaluation of the Special Waste Oil Monitoring Equipment (SWOMS) on board. At the time of this evaluation, the vessel was loaded and lying at anchor off Melaka Outer Roads, Malaysia, waiting berthing for discharge of cargo. The incoming Master was on board and was in the process of taking over command from the outgoing Master. Change of command was planned at the next port call, Singapore. Also on board was an ABS auditor conducting an ISPS audit and some statutory surveys. I departed the vessel at about 1400 on June 17, 2009.

An informal meeting was held on arrival at 1400 with both Masters and the Chief Engineer to explain the purpose of my visit on board. An opening meeting was held with the incoming Master, Chief Engineer and all engineers at 1500 to discuss the purpose and time table of activities. The following personnel participated in the onboard evaluation:

Rank	Name
Master	Drosopoulos Ioannis
Master incoming	Nikiforakis Dimitrios
Chief Engineer	Petrts Konstantinos
2 nd Engineer	Chekimidis Symeon
3 rd Engineer	Majaducon Roy
4 th Engineer	Lazaro Johnis

The initial audit of this vessel was conducted underway in July 2008 by the undersigned as required by the Plea Agreement signed between the United States of America, District of Connecticut and Ionia Management S. A. This evaluation was conducted as part of the above audit as required by Special Master Appointment and Scope of Work, Section IV Waste Oil Records Maintenance and Reporting, Sub-sections a & b. (Pages 4 - 5). During the initial audit, the required SWOMS equipment was not fitted on board. The equipment was subsequently fitted on board during the dry-docking of the vessel and commissioned on November 1, 2008.



The following observations relate to the requirements, compiled from the document, "Scope of Work".

Requirement:

Install a Special Waste Oil Monitoring System (SWOMS) on the covered vessels which is designed to electronically monitor and record all waste oil generation and processing in the E/R in tamper proof and automated manner. The intent of this special condition of probation is to ensure the monitoring system creates an independent record which can be sent to the company and reviewed by the company official, who can detect anomalies. In addition when analyzed this independent record can be compared with records kept by shipboard personnel.

The vessel is fitted with SWOMS equipment. It is tamper proof and is automatically creating electronic records. The records are sent to the company on a regular basis and management has nominated an official to review and analyze the records and deal accordingly to ensure compliance with company guidelines.

Requirement:

Install an effective methodology and implement procedures to analyze and compare these shipboard records with the electronic records generated by the, Special Waste Oil Monitoring Systems (SWOMS) on board the covered vessels.

The vessel is fitted with, "Vigilant Enviro-Logger, OWS & Incinerator Monitor made by Vigilant Marine systems LLC of California, USA. There were no special procedures issued by the management. The vessel staff followed the Operation Manual issued by makers; Version 3 Revision 2.

Requirement:

The SWOMS must have capability to record the data and data be electronically sent to IONIA shore side offices. The data shall be recorded by SWOMS at least hourly.

The installed SWOMS meets the requirements as stated

Requirement:

Verify all monitoring equipment is installed and functional as per the requirements of the document, "Scope of Work", and in accordance with manufacturer's manual.

The equipment is installed as per above requirements and manufacturer's manual.

Requirement:

Assess the adequacy and performance of SWOMS.

The SWOMS equipment installed on board appears adequate and is performing as designed.

Requirement:

Verify tank soundings and data from OWS and incinerator operation, observed against printout from Enviro-Logger.

Tank soundings and the data from OWS and incinerator operations were compared with Enviro-Logger. Some discrepancies were observed in the quantities of tank soundings and timings in comparison to ORB. The exact quantities were not always consistent with the actual tank soundings, likely due for the need for further calibration. When the tanks were low the discrepancies were not as significant as when they were high. The discrepancies were



informed to the management by the Chief Engineer. Presently investigation is underway to rectify the problem in consultation with the manufacturer. It is also recommended that staff record times in LMT as well as GMT for easy comparison in ORB.

Requirement:

The unit has capability to print the data on board.

The system provides timed printouts twice daily at 00:00 and 12:00 GMT.

Requirement:

Verify data on board against the data received by Ionia Management in Greece.

The present practice is that the data from Enviro Logger is sent on a daily basis to management in Greece. Recorded data by the Chief Engineer is sent on a monthly basis to management in Greece which includes tank sounding sheets, ORB extracts and E/R alarm printout. A Sludge/Bilge weekly report is sent by C/E every Sunday on a Ulysses maintenance PMS system.

Requirement:

Evaluate how tamper proof the equipment and the systems are.

The equipment and systems appear to be tamper proof as the seal on the unit is intact and not broken since the joining of the present Chief Engineer on April 20, 2009. The original seal No. 0064231 was put on October 23, 2009 on the Enviro-Logger unit on OWS and the original seal is still intact as verified by the auditor.

Requirement:

Verify if the system cannot be by-passed or turned off.

In the current status, the system cannot be by-passed. The system can be turned off but the Enviro Logger will indicate time and date change. In case of black out there is a back up provision for operation of the unit.

Requirement:

Are there any alarms or printouts to indicate tampering of the equipment?

No information was found on alarm for tampering, however, the Chief Engineer indicated that the printout may indicate if any tampering was done to the inputs.

Requirement:

Is the maintenance carried out by ship staff, as per manufacturer's manual and proper record is maintained by ship's staff?

No maintenance records were found on board. As per C/E, a form was received on board on June 13, 2009, for recording maintenance. The form is not a controlled document, made by management, (form attached).

Requirement:

Introduce effective and systematic procedures for continuous assessment and improvement of IONIA's compliance efforts. Such procedures shall be designed to foster a culture of compliance and change where necessary from senior managers of the company to lowest level crew members.



Currently adequate procedures have been introduced. There is a need for focused and dedicated value added training courses for sea staff to foster "Compliance Culture".

Requirement:

The CCM shall be responsible for ensuring each covered vessel submits copies of the records on a monthly basis as practicable in a format which can be compared with shipboard records kept by IONIA crew members.

Currently the records generated by equipment are comparable to vessel generated records of Tank Sounding Log Book, ORB. They are submitted on a monthly basis, but there is no written procedure found on board to that effect.

Requirement:

The CCM shall be responsible for the development of company procedures to review and analyze the ship records, in conjunction with SWOMS data to ensure compliance with MARPOL and accurate oil waste records.

No company procedures developed by CCM were found on board. From the documentation observed on board, it was noted that the vessel is in compliance with MARPOL and maintaining accurate waste oil records. As noted previously, data from the Enviro Logger is sent on a daily basis to management in Greece. Recorded data by the Chief Engineer is sent on a monthly basis to management in Greece, which includes tank sounding sheets, ORB extracts and E/R alarm printout. A Sludge/Bilge weekly report is sent by C/E every Sunday on a Ulysses maintenance PMS system.

Requirement:

Participation of all shipboard engineering officers on vessels covered at all levels shall be mandatory for information on how to make the SWOMS and other processes tamper proof. The survey shall request opinion of vessels engineers into their ability to adequately maintain vessel systems, equipment and components.

Presently there is no provision for this requirement in the company procedures and no records were found on board.

Respectfully submitted,

For:
S. Joshi

Attachments

01. Crew List.
02. Enviro-Logger daily extract with actual daily soundings for June 09 -12, 2009.
03. Comparison of Enviro-Logger with daily Tank sounding sheet.
04. Correspondence with management re difference of BHT soundings with Environ-Logger records.
05. Enviro-Logger records printout sample sheets.



06. Correspondence between management and the vessel re weekly test function of 15 ppm OWS entry in ORB.
07. Photocopy of Operational manual Version 3 Rev. 2 for VIGILANT ENVIRO-LOGGER, OWS and incinerator monitor.
08. Service report dated May 23, 2009 from Drew Marine Technical Service Program for upgrading.
09. Sludge/Bilge weekly report, a company form.
10. Extract of Engine Room Seal log Book for original seal entry of Enviro-Logger, Seal No. 0064231 dated 23 October, 2008.
11. Enviro-Logger check list form issued by management
12. Correspondence from vessel and management re Defect Report for the incinerator dated June 12, 2009.
13. The samples were taken as required in presence of auditor with seal numbers as quoted.
14. Photos.